By means of the technology development approaches outlined in the paper, the road is being paved toward providing enabling technologies for in-situ exploration missions into the 21st Century: 1) Rovers to find, get, and return samples from the surface of Mars (01,03,05); 2) Deep Mars, comet and asteroid subsurface exploration; 3) Robots for sample acquisition, handling, processing, containerization, and planetary quarantine in Sample Return missions; 4) Aerobots to enable exploration of Mars, Venus, and Titan atmospheres and multiple landing sites; 5) Nanorovers prove useful as special-purpose machines for in-situ science; 6) Robots that reconfigure and repair themselves emerge in the long term. The paper will conclude with the intent of presenting a futuristic, inspirational vision toward space exploration in the first few decades of the next century.

## REFERENCES


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